

NON-PUBLIC?: N
ACCESSION #: 9003140392
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Wolf Creek Generating Station PAGE: 1 OF 03

DOCKET NUMBER: 05000482

TITLE: Reactor Trip As A Result Of Reactor Coolant Pump Trip Caused By An
Indicated High Differential Current Condition
EVENT DATE: 02/06/90 LER #: 90-001-00 REPORT DATE: 03/08/90

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Merlin G. Williams TELEPHONE: (316) 364-8831

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

On February 6, 1990, at approximately 0906 CST, a Reactor trip occurred from 100 percent power as a result of a loop low flow condition following a trip of Reactor Coolant Pump (RCP) "A". In addition, a Feedwater Isolation Signal, an Auxiliary Feedwater Actuation Signal, and a Steam Generator Blowdown and Sample Isolation Signal actuations occurred as designed. All required safety related equipment performed as designed.

The trip of RCP "A" was caused by an indicated high differential current on the "A" phase. The differential current relay was tested and no abnormalities were detected. Extensive troubleshooting efforts were unsuccessful in identifying the root cause for the relay actuation. Following installation temporary recorders to monitor inputs to the relay, RCP "A" was restarted at approximately 1630 CST. No significant abnormalities associated with pump operation were detected and the next day, on February

7, 1990, the unit was restarted, entering Mode 2, Startup, at 1631 CST.

END OF ABSTRACT

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INTRODUCTION

On February 6, 1990, at approximately 0906 CST, a Reactor AB-RCT! trip occurred from 100 percent power following a trip of Reactor Coolant Pump (RCP) AB-P! "A". In addition, a Feedwater Isolation Signal (FWIS), an Auxiliary Feedwater Actuation Signal (AFAS), and a Steam Generator Blowdown and Sample Isolation Signal (SGBSIS) actuations occurred as designed. The required safety related equipment performed as designed. This event is being reported pursuant to 10CFR50.73(a)(2)(iv) as automatic actuations of Engineered Safety Features (ESF) JE! equipment.

DESCRIPTION OF EVENTS

Prior to the trip, the unit was in Mode 1, Power Operation, at 100 percent power, with the Reactor Coolant System (RCS) AB! at normal operating temperature and pressure. Feedwater flow was being provided by Main Feedwater Pumps (MFP) "A" and "B" SJ-P! in automatic control. Each Main Feedwater Control Valve SJ-FCV! was open and in automatic control. Containment Cooling Fan "D" BK-FAN! was out of service for breaker maintenance as allowed by the plant's Technical Specifications.

On February 6, 1990, at 0906 CST, RCP "A" tripped as a result of an indicated high differential current on the "A" phase. Because the unit was operating above 48 percent power (the P-8 permissive), the resultant loop low flow condition resulted in a Reactor trip and Main Turbine TA-TRB! trip. FWIS, AFAS and SGBSIS actuations occurred as expected. Following the trip, the Control Room operators verified proper operation of safety systems and took actuations to stabilize the plant at normal operating temperature and pressure in accordance with procedures EMG E-0, "Safety Injection," and EMG ES-02, "Reactor Trip Response". At approximately 0930 CST, the operators transitioned to normal operating procedure GEN 00-005, "Plant Shutdown from 20% Minimum Load to Hot Standby".

The handswitch for RCP "A" was placed in "pull-to-lock" and troubleshooting efforts were initiated to determine the cause of the RCP motor trip. A visual inspection of RCP "A" identified no abnormalities. The motor was meggered and bridged with satisfactory results, i.e., there were no indications of motor degradation. The differential current relay was checked and no problems were identified. Readings from the current transformers associated with the differential current relay were obtained. RCP "C" was secured at 1541

CST to obtain current transformer readings for comparison with those obtained from RCP "A". There were no significant discrepancies between the two sets of readings.

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The results of these troubleshooting efforts were discussed with the RCP supplier, Westinghouse Electric Corporation. During the discussion, it was concluded that there were no further troubleshooting activities that could be performed to identify the root cause of the RCP trip. It was further concluded that a restart of RCP "A" could be attempted without a substantial risk for pump damage.

Recorders to monitor all three phases of inputs to the differential current relays on RCP "A" were installed and RCP "A" was restarted at approximately 1630 CST. No abnormalities associated with the RCP's operating characteristics were detected. Oil was added to RCP "C" and it was restarted at 2254 CST.

The "D" Containment Cooling Fan was restored to service at 0121 CST on February 7, 1990. In the absence of any abnormal indications from RCP "A", the unit was restarted, entering Mode 2, Reactor Startup, at 1631 CST on February 7.

ROOT CAUSE AND CORRECTIVE ACTIONS

The extensive troubleshooting efforts were unsuccessful in identifying the root cause of the trip of RCP "A". It is planned to leave the temporary recorders installed on the differential current relay inputs until the upcoming refueling outage which will begin in March, 1990.

During the refueling outage, it is planned to megger and perform a current test on the current transformers, to inspect all the connections in the circuit, and, as a precautionary measure, to replace the differential current relay. Additional activities planned during the refueling outage include a check of the capacitors associated with RCP "A", and another bridge and megger test of the RCP "A" motor.

ADDITIONAL INFORMATION

All safety systems functioned properly during this event, thus preventing development of conditions that could have posed a threat to the health and safety of the public.

There have been no previous similar occurrences.

ATTACHMENT 1 TO 9003140392 PAGE 1 OF 1

WOLF CREEK
NUCLEAR OPERATING CORPORATION

John A. Bailey
Vice President
Nuclear Operations

March 8, 1990

NO 90-0075

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Subject: Docket No. 50-482: Licensee Event Report 90-001-00

Gentlemen:

The attached Licensee Event Report (LER) is submitted pursuant to 10 CFR 50.73 (a) (2) (iv) concerning an Engineered Safety Features actuation.

Very truly yours,

John A. Bailey
Vice President
Nuclear Operations

JAB/aem

Attachment

cc: E.J. Holler (NRC), w/a
R.D. Martin (NRC), w/a
D.V. Pickett (NRC), w/a
M.E. Skow (NRC), w/a

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